IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	§	Group Art Unit: 2153
	§	
Slaughter, et al.	§	Examiner: Brancolini, John R.
	§	
	§	Atty. Dkt. No.: 5181-64900
	§	P4980
Serial No.: 09/660,563	§	
	§	
Filed: September, 12, 2000	§	
	§	
For: MECHANISM AND APPARATUS FOR ACCESSING AND ADDRESSING SERVICES IN A DISTRIBUTED COMPUTING ENVIRONMENT	§	

CERTIFICATE OF MAILING
37 C.F.R. § 1.8

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Robert C. Kowert
Name of Registered Representative

March 24, 2005 _____
Date Signature

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir/Madam:

Further to the Notice of Appeal filed January 25, 2005, Appellants present this Appeal Brief. Appellants respectfully request that the Board of Patent Appeals and Interferences consider this appeal.

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I. REAL PARTY IN INTEREST

As evidenced by the assignment recorded at Reel/Frame 011099/0750, the subject application is owned by Sun Microsystems, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware, and now having its principal place of business at 4150 Network Circle, Santa Clara, CA 95054.

II. RELATED APPEALS AND INTERFERENCES

No other appeals, interferences or judicial proceedings are known which would be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-30 are pending and rejected. The rejection of claims 1-30 is being appealed. A copy of claims 1-30 is included in the Claims Appendix hereto.

IV. STATUS OF AMENDMENTS

No amendments to the claims have been submitted subsequent to the final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Typically, traditional networks are complex to set up, expand and manage. Also, certain intelligent devices may not support the necessary interfaces to communicate on a given network. What is needed is a simple way to connect various types of intelligent devices to allow for communication and sharing of resources while avoiding the interoperability and complex configuration problems existing in conventional networks. Various technologies exist for improving the addition of devices to a network. For example, many modern I/O buses, such as the Universal Serial Bus, 1394 and PCI, support plug and play or dynamic discovery protocols to simplify the addition of a new

device on the bus. However, these solutions are limited to specific peripheral buses and are not suitable for general networks.

Independent claim 1 is directed to a method for a client to communicate with a service in a distributed computing environment. A client may read an advertisement from a space that includes a network-addressable storage location. A distributed computing environment may rely upon "spaces" or object repositories to store advertisements from services. *See, e.g.*, p. 14, line 3 – p. 15, line 6; and p. 29, lines 8-24. Service providers may advertise services in such a space. Client may locate the advertisements in a space and use the information provided in the service advertisement to access the services. For example, a client may utilize a discovery service to locate a space and/or advertisements on a space. *See, e.g.*, p. 29, line 26 – p. 30, line 11. A service advertisement may include a Uniform Resource Identifier (URI) that specifies a network address at which a service may be accessed. *See, e.g.*, p. 15, line 8 – p. 16, line 10.

An advertisement may also include a schema that specifies messages usable to invoke one or more functions of the service. For example, a service advertisement may include an XML schema specifying a set of message that clients of the service may send to the service to invoke functionality provided by the service. Thus, a schema may define a client-service interface. Together, the URI and schema in an advertisement may indicate how to address and access the service. *See, e.g.*, p. 18, lines 1-21; p. 32, lines 9-18; and p. 34, lines 4-18. After reading the advertisement from the space, the client may access the service by sending a message specified in the schema to the URI from the advertisement. *See also*, FIGs. 6, 8, 9, 11b, 15, 18, 22, 31, 32B, 38, 44a-g, 45, 48; p. 15, lines 8-24; p. 29, lines 8-24; p. 31, line 19 – p. 32, line 7; p. 36, lines 1-13; and p. 38, line 20-27.

Independent claim 11 is directed to a system including a client and a service. The client locates an advertisement for the service in space and uses information from the space to access the service similarly as described above regarding claim 1. Please see the

discussion above regarding claim 1 for a more detailed description of examples of how a client may locate a service advertisement and uses information from the advertisement to access the service. *See, e.g.*, FIGs. 6 – 9, 10a – b, 11b, 15, 18, 25, 32A-B; p. 31, line 6 – p. 32, line 7; and p. 32, lines 9 – 29.

Independent claim 21 is directed to a medium including program instructions that are computer-executable to implement a method similar to that described above regarding claim 1. *See also, e.g.*, p. 167, line 32 – p. 168, line 5.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-3, 7-13, 17-23, and 27-30 are rejected under 35 U.S.C. § 102(b) as being anticipated by Rosenberg et al. (European Patent No. 0892530).

2. Claims 4-6, 14-16, and 24-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rosenberg et al. (European Patent No. 0892530) in view of Brown et al (U.S. Pat. No. 6,658,415).

VII. ARGUMENT

First Ground of Rejection:

Claims 1-3, 7-13, 17-23, and 27-30 are finally rejected under 35 U.S.C. § 102(b) as being anticipated by Rosenberg et al. (European Patent No. 0892530 - hereinafter "Rosenberg"). Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claims 1, 3, 7, 8 and 9:

Regarding claim 1, Rosenberg fails to disclose a method comprising a client reading an advertisement from a space, wherein the space comprises a network-addressable storage location, wherein the advertisement comprises a Uniform

Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which a service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service.

Rosenberg teaches a method for a client to locate a particular service from a service provider on wide area computer networks. Specifically, Rosenberg teaches that a client queries a directory agent to locate a Service Broker that has stored an advertisement for a desired service. The client then queries the Broker to obtain the address of the particular service (Rosenberg, Abstract, column 2, lines 31-51). However, Rosenberg does not teach that an advertisement includes a schema specifying one or more messages usable to invoke functions of a service. Rosenberg also fails to teach the client sending a first message to the service at the URI, wherein the first message is specified in the schema. The Examiner contends that under Rosenberg a "client can respond to the criteria set forth in the schema to the service broker which processes the request." However, the Examiner's cited passage does not include any reference or teaching to a schema. In fact, Rosenberg provides no mention or suggestion of such a schema. Thus, the Examiner's assertions are unsupported by the teachings of Rosenberg.

The Examiner, in the Response to Arguments section of the Final Action, argues that when a broker in Rosenberg's system "replies to all client requests with service replies and service type replies" that the broker is utilizing a schema of sorts. This is clearly an incorrect interpretation of Rosenberg. The Examiner is trying, in hindsight, to force the teaching of Rosenberg to match Appellants' claim. However, merely responding to requests does not constitute using a schema from an advertisement. The Examiner has not shown how Rosenberg anticipates an advertisement comprising a schema *that specifies one or more messages usable to invoke functions of the service.* Rosenberg teaches that an advertisement describes "the attributes and cost structure" of a service (Rosenberg, column 3, lines 48-50). Rosenberg does not mention an advertisement including a schema specifying one or more messages usable to invoke one or more functions of the service. Furthermore, the Examiner's interpretation of Rosenberg pertains to the operation of the broker, not a client. Thus, even under the

Examiner's interpretation, Rosenberg still fails to anticipate a *client* sending a message specified in the schema. The Examiner is clearly using hindsight and speculation regarding Rosenberg's client/server communications to insert a schema into the advertisements of Rosenberg's system.

Furthermore, in the Response to Arguments section, the Examiner **incorrectly** states that "[a]s claimed, the limitation [of claim 1] only includes invoking one or more functions of the service." The Examiner has improperly ignored the fact that claim 1 recites, in pertinent part, that the advertisement comprises a Uniform Resource Identifier (URI) and a schema, and that the schema specifies one or more messages usable to invoke one or more functions of the service. Just invoking one or more functions of a service does not anticipate an advertisement including a schema specifying messages usable to invoke functions of a service.

For a proper rejection under section 102, the *identical* invention must be shown *in as complete detail* as is contained in the claims. Anticipation requires the presence, in a single prior art reference disclosure, of *each and every element* of the claimed invention, *arranged as in the claim* (M.P.E.P § 2131). Claim 1 is clearly not anticipated by Rosenberg.

Claim 2:

Regarding claim 2, Rosenberg fails to disclose the service sending a second message to the client in response to the client sending the first message to the service, wherein the second message in specified in the schema. As described above regarding claim 1, Rosenberg clearly fails to teach an advertisement including a schema specifying messages usable to invoke functions of a service. Without such a schema, Appellants fail to see how Rosenberg can disclose a service sending a message specified in a schema to a client. The Examiner refers to step 7 in Fig. 7 and lines 1-21 of col. 7 in Rosenberg. However, this portion of Rosenberg refers to the directory agent returning a broker address to the client. Appellants fail to see how this has any relevance to claim 2.

The communication from the broker agent is not a message from the service whose URI is provided in an advertisement. Nor is it a message specified in a schema provided in the advertisement.

The Examiner argues, in the Response to Arguments section, that the client/server communication in Rosenberg utilizes a schema, "though not directly calling it a schema." In fact, Rosenberg doesn't refer to anything like a schema at all. As discussed above regarding claim 1, the Examiner contends that any exchange of messages implies a schema. The Examiner is thus applying his own hindsight speculation to insert the use of a schema into Rosenberg's system. Rosenberg does not disclose that his services send messages specified in a schema and certainly does not teach a service communicating using messages specified in a schema included in an advertisement for the service.

Claim 10:

Regarding claim 10, Rosenberg does not teach a client using the URI and the schema in the advertisement to construct a gate for access to the service. Firstly, as described above, Rosenberg fails to teach a schema specifying one or more messages usable to invoke one or more functions of the service. Hence, Rosenberg cannot teach a client using such a schema to construct a gate for access to the service.

Secondly, Rosenberg contains no reference or teaching regarding constructing a gate for access to a service. In the Response to Arguments section, the Examiner **erroneously** contends that a client obtaining an address and connecting to a server implies using a URI and a schema from an advertisement to construct a gate for access to the service. Specifically, the Examiner states, "[u]tilizing the information contained in the schema, the client receives an address of the service provider which the client then uses to connect directly to the server, constructing a gate for access". However, the Examiner has failed to show that Rosenberg's system includes a schema that contains information usable by the client. The Examiner only argues that since brokers response to client requests "with service replies and service type replies" Rosenberg's system

includes a schema (see, Response to Arguments section, regarding claim 1). The Examiner has not shown how a client obtains or gains access to such a schema, nor does the Examiner show where Rosenberg teaches that such a schema includes information usable by a client to construct a gate. Thus, Rosenberg fails to disclose a client constructing a gate for access to a service and clearly fails to teach a client using a URI and a schema from an advertisement to construct a gate.

Furthermore, Rosenberg is not concerned with the details of client/server communications, but instead is only concerned about a client locating a service. Rosenberg does not even describe how a client communicates with a service, except to say, "[t]he client is then able to contact server X to obtain service A" (Rosenberg, FIG. 2, step 10 and column 2, lines 50-51). The Examiner is incorrectly interpreting that single statement as disclosing a client using a URI and a schema from an advertisement to construct a gate for access to the service. Such an interpretation is clearly incorrect.

Claims 11, 13, 17, 18 and 19:

Regarding claim 11, Rosenberg fails to disclose a space that stores and advertisement for a service, wherein the advertisement includes a Uniform Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which a service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service. Rosenberg further fails to disclose a client reading the advertisement from the space and sending a message to the service at the URI, wherein the message is specified in the schema.

Instead, Rosenberg teaches that a client queries a directory agent to locate a Service Broker that has stored an advertisement for a desired service. The client then queries the Broker to obtain the address of the particular service (Rosenberg, Abstract, column 2, lines 31-51). However, Rosenberg does not teach that a service advertisement includes a schema that specifies one or more messages usable to invoke one or more functions of the service.

Rosenberg also fails to teach the client sending a first message to the service at the URI, wherein the first message is specified in the schema. The Examiner contends that under Rosenberg a "client can respond to the criteria set forth in the schema to the service broker which processes the request." However, the Examiner's cited passage does not include any reference or teaching to a schema. In fact, Rosenberg provides no mention or suggestion of such a schema.

For a more detailed discussion regarding how Rosenberg's advertisements fail to include a schema, please refer to the arguments above regarding claim 1, which also apply to claim 11.

Claim 12:

Regarding claim 12, Rosenberg fails to disclose the service sending a second message to the client in response to the client sending the first message to the service, wherein the second message in specified in the schema. As described above regarding claims 1 and 11, Rosenberg clearly fails to teach an advertisement including a schema specifying messages usable to invoke functions of a service. Without such a schema, Rosenberg cannot disclose a service sending a message specified in a schema to a client. The Examiner refers to step 7 in Fig. 7 and lines 1-21 of col. 7 in Rosenberg. However, this portion of Rosenberg refers to the directory agent returning a broker address to the client. Rosenberg does not disclose that his services send messages specified in a schema and certainly does not teach a service communicating using messages specified in a schema included in an advertisement for the service. For a more detailed discussion regarding Rosenberg's lack of teaching regarding a service sending a message specified in a schema from a service advertisement, please see the arguments above regarding claim 2, as they apply to claim 12 with equal force.

Claim 20:

Regarding claim 20, Rosenberg does not teach a client using the URI and the schema in the advertisement to construct a gate for access to the service. Firstly, as described above, Rosenberg fails to teach a schema specifying one or more messages usable to invoke one or more functions of the service. Hence, Rosenberg cannot teach a client using such a schema to construct a gate for access to the service.

Secondly, Rosenberg contains no reference or teaching regarding constructing a gate for access to a service. The Examiner has not shown how a client in Rosenberg's system obtains or gains access to such a schema, nor does the Examiner show where Rosenberg teaches that such a schema includes information usable by a client to construct a gate. Rosenberg fails to disclose a client constructing a gate for access to a service and clearly fails to teach a client using a URI and a schema from an advertisement to construct a gate.

For more details regarding Rosenberg's failure to disclose a client using information from an advertisement to construct a gate to access a service, please see the arguments above regarding claim 10.

Claims 21, 23, 27, 28 and 29:

Regarding claim 21, Rosenberg fails to teach program instructions computer-executable to implement a client reading an advertisement from a space, wherein the space comprises a network-addressable storage location, wherein the advertisement comprises a Uniform Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which a service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service.

Rosenberg teaches that a client queries a directory agent to locate a Service Broker that has stored an advertisement for a desired service. The client then queries the Broker to obtain the address of the particular service (Rosenberg, Abstract, column 2,

lines 31-51). However, Rosenberg does not teach that a service advertisement includes a schema that specifies one or more messages usable to invoke one or more functions of the service.

Rosenberg also fails to teach the client sending a first message to the service at the URI, wherein the first message is specified in the schema. The Examiner contends that under Rosenberg a "client can respond to the criteria set forth in the schema to the service broker which processes the request." However, the Examiner's cited passage does not include any reference or teaching to a schema. In fact, Rosenberg provides no mention or suggestion of such a schema.

For a more detailed discussion regarding how Rosenberg's advertisements fail to include a schema, please refer to the arguments above regarding claims 1 and 11, which also apply to claim 21.

Claim 22:

Regarding claim 12, Rosenberg fails to disclose the service sending a second message to the client in response to the client sending the first message to the service, wherein the second message in specified in the schema. As described above regarding claims 1, 11, and 21, Rosenberg clearly fails to teach an advertisement including a schema specifying messages usable to invoke functions of a service. Without such a schema, Rosenberg cannot disclose a service sending a message specified in a schema to a client. The Examiner refers to step 7 in Fig. 7 and lines 1-21 of col. 7 in Rosenberg. However, this portion of Rosenberg refers to the directory agent returning a broker address to the client. Rosenberg does not disclose that his services send messages specified in a schema and certainly does not teach a service communicating using messages specified in a schema included in an advertisement for the service. For a more detailed discussion regarding Rosenberg's lack of teaching regarding a service sending a message specified in a schema from a service advertisement, please see the arguments above regarding claims 2 and 12, as they apply to claim 22 with equal force.

Claim 30:

Regarding claim 30, Rosenberg does not teach a client using the URI and the schema in the advertisement to construct a gate for access to the service. Firstly, as described above, Rosenberg fails to teach a schema specifying one or more messages usable to invoke one or more functions of the service. Hence, Rosenberg cannot teach a client using such a schema to construct a gate for access to the service.

Secondly, Rosenberg contains no reference or teaching regarding constructing a gate for access to a service. The Examiner has not shown how a client in Rosenberg's system obtains or gains access to such a schema, nor does the Examiner show where Rosenberg teaches that such a schema includes information usable by a client to construct a gate. Rosenberg fails to disclose a client constructing a gate for access to a service and clearly fails to teach a client using a URI and a schema from an advertisement to construct a gate.

For more details regarding Rosenberg's failure to disclose a client using information from an advertisement to construct a gate to access a service, please see the arguments above regarding claims 10 and 20.

Second Ground of Rejection:

Claims 4-6, 14-16, and 24-26 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Rosenberg in view of Brown et al (U.S. Pat. No. 6,658,415 - hereinafter "Brown"). Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claim 4, 5 and 6:

Regarding claim 4, Rosenberg in view of Brown fails to teach or suggest a schema in a service advertisement that specifies messages usable to invoke functions of a service, wherein the schema is expressed in a data representation language.

The Examiner argues that Rosenberg teaches all limitations of claim 1, and fails only to disclose a schema expressed in a data representation language. Appellants strongly disagree. Rosenberg teaches a service broker system wherein clients contact service brokers to obtain communication addresses for desired services. As shown above regarding the § 102(b) rejection, Rosenberg in fact fails to anticipate independent claim 1.

The Examiner relies on Brown to teach a schema expressed in a data representation language. Brown teaches a system for electronically monitoring and managing user access to online content via a universally accessible database (Brown, column 2, lines 20-29). The Examiner argues, "Brown discloses expressing data transfer file [sic], such as document type definitions, as well as schema expressions in XML." However, Brown teaches that a schema is "utilized to *validate XML data files*" and that such a schema "would verify that *all the data* required for authority designated access is included in the *XML data file*" (emphasis added, Brown, column 5, lines 11-24). Thus, although Brown teaches the use of a schema, Brown teaches using a data schema *to validate the contents of data files*. Brown has nothing to do with a message schema that specifies one or more messages usable to invoke one or more functions of a service. The schema in Brown is a completely different type of schema as recited in Appellants' claims.

In the Response to Arguments section of the Final Action, the Examiner asserts that he is relying upon Brown only to teach providing a schema in a data representation language, such as XML. While Brown does teach that a schema can be used to *validate data files*, Brown does not teach or suggest using XML in a schema to *specify messages* usable to invoke functions of a service. Specifically, Brown teaches, "DTDs, schemas, and XSL files may be, for example, transmitted with an XML data file to a receiving

system" and that "the DTD or schema would verify that all the data required for authority designated access is included in the XML data file" (Brown, column 5, lines 18-24). Hence, neither Rosenberg nor Brown provides any suggestion of using a schema to specify messages usable to invoke functions of a service or that such a schema may be expressed in a data representation language. Claim 4 does not recite a schema for verifying data content in XML files (as in Brown). Instead, claim 4 requires that the schema specifying one or more messages usable to invoke functions of the service be expressed in a data representation language. None of the cited references, nor any combination of the references, suggest this limitation.

Thus, there is no teaching in Rosenberg or Brown, either alone or in combination, that teaches or suggests using a schema as part of a service advertisement, wherein the schema specifies one or more messages that a client may send to a service to invoke one or more functions of the service. Nor do Rosenberg and Brown, either alone or in combination, teach that this type of schema is expressed in a data representation language.

Additionally, one of ordinary skill in the art would have no reason to combine the teachings of Rosenberg and Brown. Under the teachings of Rosenberg and Brown there would be no reason to modify the service broker system of Rosenberg by adding the data file validation use of schemas as taught be Brown. Rosenberg does not mention anything about data file validation and Rosenberg's system does not include the transfer of data files needing validation. Therefore, one of ordinary skill in the art would have no reason to apply the teaching of Brown to those of Rosenberg. The service broker system of Rosenberg and the online content access monitoring system of Brown are completely different types of systems. Even if the teachings of these references were combined, the resultant system would still use a schema only for data validation, and not for specifying messages that a client may send to a service to invoke functions of the service. The prior art references must be considered in their entirety, i.e., as a whole. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

Claim 14, 15 and 16:

Regarding claim 14, Rosenberg in view of Brown fails to teach or suggest a schema in a service advertisement that specifies messages usable to invoke functions of a service, wherein the schema is expressed in a data representation language.

The Examiner relies on Brown to teach a schema expressed in a data representation language. Brown teaches a system for electronically monitoring and managing user access to online content via a universally accessible database (Brown, column 2, lines 20-29). The Examiner argues, "Brown discloses expressing data transfer file [sic], such as document type definitions, as well as schema expressions in XML." However, Brown teaches that a schema is "utilized to *validate XML data files*" and that such a schema "would verify that *all the data* required for authority designated access is included in the *XML data file*" (emphasis added, Brown, column 5, lines 11-24). Thus, although Brown teaches the use of a schema, Brown teaches using a data schema to validate the contents of data files. Brown has nothing to do with a message schema that specifies one or more messages usable to invoke one or more functions of a service.

For a more detailed discussion regarding how Rosenberg in view of Brown fails to teach that the schema is expressed in a data representation language, please refer to the arguments above regarding claim 4, as they also apply to claim 14.

Claim 24, 25 and 26:

Regarding claim 24, Rosenberg in view of Brown fails to teach or suggest a schema in a service advertisement that specifies messages usable to invoke functions of a service, wherein the schema is expressed in a data representation language.

The Examiner relies on Brown to teach a schema expressed in a data representation language. Brown teaches a system for electronically monitoring and managing user access to online content via a universally accessible database (Brown,

column 2, lines 20-29). The Examiner argues, "Brown discloses expressing data transfer file [sic], such as document type definitions, as well as schema expressions in XML." However, Brown teaches that a schema is "utilized to *validate XML data files*" and that such a schema "would verify that *all the data* required for authority designated access is included in the *XML data file*" (emphasis added, Brown, column 5, lines 11-24). Thus, although Brown teaches the use of a schema, Brown teaches using a data schema to validate the contents of data files. Brown has nothing to do with a message schema that specifies one or more messages usable to invoke one or more functions of a service.

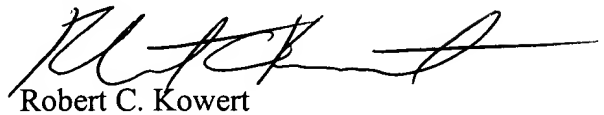
For a more detailed discussion regarding How Rosenberg in view of Brown fails to teach wherein the schema is expressed in a data representation language, please refer to the arguments above regarding claims 4 and 14, as they also apply to claim 24.

VIII. CONCLUSION

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1-30 was erroneous, and reversal of his decision is respectfully requested.

The Commissioner is authorized to charge the appeal brief fee of $500.00 and any other fees that may be due to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5181-64900/RCK. This Appeal Brief is submitted with a return receipt postcard.

Respectfully submitted,



Robert C. Kowert
Reg. No. 39,255
Attorney for Appellants

Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C.
P.O. Box 398
Austin, TX 78767-0398
(512) 853-8850

Date: March 24, 2005

IX. CLAIMS APPENDIX

The claims on appeal are as follows.

1. A method comprising:

a client reading an advertisement from a space, wherein the space comprises a network-addressable storage location, wherein the advertisement comprises a Uniform Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which a service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service; and

the client sending a first message to the service at the URI, wherein the first message is specified in the schema.

2. The method of claim 1, further comprising:

the service sending a second message to the client in response to the client sending the first message to the service, wherein the second message is specified in the schema.

3. The method of claim 1, further comprising:

invoking one or more functions of the service in response to the client sending the first message to the service.

4. The method of claim 1,

wherein the schema is expressed in a data representation language.

5. The method of claim 1,

wherein the first message is expressed in a data representation language.

6. The method of claim 5,

wherein the data representation language comprises eXtensible Markup Language (XML).

7. The method of claim 1,

wherein the URI comprises an Internet address.

8. The method of claim 1, further comprising:

the service publishing the advertisement in the space.

9. The method of claim 1, further comprising:

the client using a lookup service to find the advertisement in the space.

10. The method of claim 1, further comprising:

the client using the URI and the schema in the advertisement to construct a gate for access to the service.

11. A system comprising:

a client;

a service which is communicatively coupled to the client; and

a space which is communicatively coupled to the client, wherein the space comprises a network-addressable storage location, wherein the space stores an advertisement for the service, wherein the advertisement comprises a Uniform Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which the service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service;

wherein the client is operable to:

read the advertisement from a space; and

send a first message to the service at the URI, wherein the first message is specified in the schema.

12. The system of claim 11,

wherein the service is operable to send a second message to the client in response to the first message, wherein the second message is specified in the schema.

13. The system of claim 11,

wherein one or more functions of the service are invoked in response to the first message.

14. The system of claim 11,

wherein the schema is expressed in a data representation language.

15. The system of claim 11,

wherein the first message is expressed in a data representation language.

16. The system of claim 15,

wherein the data representation language comprises eXtensible Markup Language (XML).

17. The system of claim 11,

wherein the URI comprises an Internet address.

18. The system of claim 11,

wherein the service is operable to publish the advertisement in the space.

19. The system of claim 11,

wherein the client is operable to use a lookup service to find the advertisement in the space.

20. The system of claim 11,

wherein the client is operable to use the URI and the schema in the advertisement to construct a gate for access to the service.

21. A carrier medium comprising program instructions, wherein the program instructions are computer-executable to implement:

a client reading an advertisement from a space, wherein the space comprises a network-addressable storage location, wherein the advertisement comprises a Uniform Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which a service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service; and

the client sending a first message to the service at the URI, wherein the first message is specified in the schema.

22. The carrier medium of claim 21, wherein the program instructions are further computer-executable to implement:

the service sending a second message to the client in response to the client sending the first message to the service, wherein the second message is specified in the schema.

23. The carrier medium of claim 21, wherein the program instructions are further computer-executable to implement:

invoking one or more functions of the service in response to the client sending the first message to the service.

24. The carrier medium of claim 21,

wherein the schema is expressed in a data representation language.

25. The carrier medium of claim 21,

wherein the first message is expressed in a data representation language.

26. The carrier medium of claim 25,

wherein the data representation language comprises eXtensible Markup Language (XML).

27. The carrier medium of claim 21,

wherein the URI comprises an Internet address.

28. The carrier medium of claim 21, wherein the program instructions are further computer-executable to implement:

the service publishing the advertisement in the space.

29. The carrier medium of claim 21, wherein the program instructions are further computer-executable to implement:

the client using a lookup service to find the advertisement in the space.

30. The carrier medium of claim 21, wherein the program instructions are further computer-executable to implement:

the client using the URI and the schema in the advertisement to construct a gate for access to the service.

X. EVIDENCE APPENDIX

No evidence submitted under 37 CFR §§ 1.130, 1.131 or 1.132 or otherwise entered by the Examiner is relied upon in this appeal.

XI. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.